Ordered A & D 2-2-17

3915

Diag. Cht. No. 8202

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: Alaska

11—5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 3915

LOCALITY:

Summer Strait

South East

Alaska

1916

CHIEF OF PARTY:

L. O. Colbert

3915

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 3915

State Alaska, Southeastern

General locality . Summer Strait

Locality . . Between the Eye Opener and Vichnafski Lt

Chief of party . L.O.Colbert

Surveyed by . . L.O.Colbert

Date of survey . April 22 to Sept 14, 1916

Scale 1/20,000

Soundings in . . . . Feet

Plane of reference . Mean Lower Low Water

Protracted by . N.P.W. . . Soundings in pencil by N.P.W.

Inked by . N.P.W. . . . . Verified by

Records accompanying sheet (check those forwarded):

1 Des. report, ____ Tide books, ____ Marigrams, ____ Boat sheets,

1 Sounding books, 1 Wire-drag books, ____ Photographs.

Data from other sources affecting sheet

Remarks:

U.S.COAST AND GEODETIC SURVEY 3915

STATE S.E.Alaska

GENERAL LOCALITY Sumner Strait

LOCALITY Vichenfski Rk. To Eye Opener Light

SURVEYED BY Wire Drag Party No. 4

CHIEF OF PARTY L.O. COLBERT,ASS'T.

DATE AUGUST To October

SCALE I;20, 000

DRAG DEPTH IN FEET AT MEAN

LOWER LOW WATER

PROTRACTED BY RL.SCHOPPE

DRAG LINES INKED BY "

TIDES INKED BY "

VERIFIED BY

COLOR SCHEME

RED 40ft+

BLUE 30 _-39

GREEN 20---29

BROWN IO---I9½

ORANGE 0---09½

DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

E. Lester Jones.

Superintendent

DESCRIPTIVE REPORT

to accompany

WIRE DRAG SHEET NO.___ 3915 (4)

SUMNER STRAIT, SOUTHEAST ALASKA.

By

WIRE DRAG PARTY No. 4.

L.O.Colbert. Chief of Party.

- 1916 -

Scale. 1 - 20,000

DESCRIPTIVE REPORT.
To accompany
WIRE DRAG SHEET No. ___ (4)

SUMNER STRAIT, SOUTHEAST ALASKA.

Limit of sheet:

This sheet is a complete drag survey of the important area of Sumner Strait, South east Alaska, lying between and approximate line from Pine Point, Prince of Wales Island, to Mitchell Point, Kupreanof Island, on the west, and a line from the southeast end of Level Island to Vichnefski Rock Light on the east end.

At the entrance to Snow Pass the dragged area begins about one-half mile north of a line from Point Colpoys to McNamara Point. Note: that "A", "B" and "C" days, as plotted on this sheet, were surveyed in 1915 by Wire Drag Party No. 4.

Depth Dragged:

The main portion of the area was dragged over at an effective depth of 45 feet or more. However, in the case of dragging over shoals and when skirting reefs, various shoaler hookups were necessary.

Distance off shore:

The drag in most cases was not taken to within less than a quarter of a mile of the shore . Along the Zarembo Island coast from Point McNamara to Vichnefski Rock light the shore is bordered by rocky reefs, off lying rocks and shoals marked by patches of kelp. For this reason it was not thought practical to drag closer than one-third to one-half mile of the shore.

Likewise along the Kupreanof Island side of the work, charted off lying rocks and shoals , made it necessary to keep well off shore.

The drag was taken within 200 meters of Pine Point, and 300 meters of Point Colpoys, Prince of Wales Island.

Currents and their effects on the drag:

The narrowmes of Sumner Strait between Level Island and Vichnefski Rock Light, and of the entrance to Snow Pass, makes it obvious that the set of the tidal current over this area would vary considerably according to the locality. At only one point was the strength of the current measured, this being about midway between McArthur reef and McNamara Point. Here the strength was found to 3.20 knots per hour, and the set to be approximately 250° and 70° (true) In dragging the above mentioned changes were noted, but it was impracticable to extend the observations over a larger area or longer period. It was estimated that conditions effecting the current varied for every square mile of the area.

Shoals Located:

(a) The 33 foot shoal given on chart 8200, 1.9 nautical miles southeast (true) of the Eye Opener, was dragged over by an effective depth of 27 feet. This work was done on the 1915 Wire Drag sheet for this region.

(b) A rocky shoal one and one-fourth miles off the northwest coast of Zarembo Island, was located with a least depth of 31 feet at mean lower low water. This shoal is about one-fourth of a mile in diameter. The following bearings were taken from the shoal.

(1) McNamara Point 157° 30′ (true) 2.6 Nautical Miles.

(2) Eye Opener Light, 279° 30′ "

(3) Vichnefski Rock" 33° 00′ "

Geographical Position:-

Latitude 56° 22' 08" North.

Longitude 133° 05' 41" West.

An effective depth of 27 feet was dragged over this shoal.

(c) A rocky shoal, three-fourths of a mile East southeast of the southeast end of Level Island, was found with a least depth of 19 feet. The shoal extends about one-fourth of a mile in a northeasterly and southwesterly direction, and about one-eighth of a mile in a southeast and northwesterly direction. The following bearings were taken from the shoal;

(1) Vichnefski Light 131° 00" (true)

(2) Alexander Point Light 44° 00" "

The Geographical Position is:-

Latitude 56° 27' 03" North.

Longitude 133° 02' 40" West.

A drag with an effective depth of 16 feet cleared this shoal.

Adjoining Sheets:-

The western end of this sheet is partly continued from and partly overlapped by days on sheet 3 of 1915 and 1916, surveyed By Wire Drag Party No.4.

The western end of the sheet is overlapped by sheet 5of 1916, surveyed by the same party. At the entrance to Snow Pass the limit of the dragged area is joined by the drag survey of Wire Drag Party No.3, in 1916.

Control Of the Survey:

The signals used to make this survey were either located by secondary triangulation or by plane table

The scale of the plotted sheet is 1 - 20,000.

Tide Reducers:

These were taken from the marigram as made by the tide gauge at St. Johns Harbor. Whenever the tides were missing at this gauge, the Wrangell tides were used and corrected so as to give the proper values for St. Johns gauge. By simultaneous comparisons the following relations were observed;

St. Johns L.W. 17'later, and same elevation as Wrangell L.W.
" " H.W. 14' " , and 1.4 lower in elevation than Wrangell H.W.

Coast Pilot Notes:

There are no anchorages or harbors within the area surveyed, although within a short distance of either end the same can be found. On the east end is St Johns Harbor, mentioned in the descriptive report of sheet 5. On the west end is Red Bay, which is included within the limits of sheet 3.

Conclusion:

The strong tidal currents combined with the irregular shaped area to be surveyed, made the use of a small drag quite necessary; one that could be handled with effect while in the tidal current. This was particularly true while in the vicinity of Vichnefski Rock light and Snpw Pass.

Conclusion - continued:

In the stretch of water between Snow Pass and Mc Arthur reef, when a stiff breeze was against the ~~tide~~ set of the tide, this area was very choppy, and often it was found impossible to avoid making splits in the work.

It can be said in concluding, that the survey as completed is a clean sweep of the main channel of Sumner Strait from a mile east of the Eye Opener to Vichnefski Rock Light.

A Joachims

Assistant, C. & G. Survey
Compiler

Approved

L. O. Colbert

Assistant, C. & G. Survey.
Chief of Party.

RIL

STATISTICS FOR WIRE DRAG SHEET No. __

Day	No. Angles	No. Stat. miles	No. retained Sdgs.
D	36	2.3	
E	158	5.5	
F	141	2.8	
G	96	4.0	
H	122	5.7	
J	127	4.5	
K	197	6.5	
L	101	3.4	
M	208	2.4	3
N	166	2.7	12
P	457	11.4	
Q	187	4.5	6
R	314	8.3	3
S	234	6.0	
T	24	.8	
U	179	5.9	
V	112	2.3	
W	308	8.6	
Total:-	3167	87.6	24

TOTAL AREA 47 Square Statute miles.

VEC
Sep.22,1917

HYDROGRAPHIC SHEET 3915.

Sumner Strait, Alaska, by L. O. Colbert in 1916.

TIDES.

	St.John Harbor Feet.	*Wrangell Feet.
Mean lower low water, or plane of reference on staff	4.2	4.6
Mean range of tide	12.5	13.8

*Allowance made for difference in the tide at Wrangell and at the place of sounding..

Verification Report of Wire drag No. 3915.

The entire working area on this sheet appears to be well dragged. Two small splits one southwest and the other northwest of Vicksburg Light were found: The former is too small to hold any significance and the latter lies between dragged areas of 39 and 50 ft. However shoal spots immediately to the north of this were discovered.

It appears that on "L" day, from position 189 the drag was plotted as carrying 7 sections with a total length of 2800 ft. The upright length from 6 to F being 35 ft and the remainder set at +3 ft. from pos 9522. The plotted drag length was substantially increased to 3200 ft. as the computations of the field party showed distances which were greater than those possible for 7 sections. Eight sections were thus assumed, sections 6-F being now 800 ft. in place of the previous 400.

The drag was plotted on "Q" day as carrying two effective depths, N→2 and being one and 2→F being the other. In reality there should have been three different depths, N→1, 1→2 and 2→F. The original incorrect plotting was allowed to remain as it is on the safe side giving the shoaler area to section 1→2.

The depth diagram from 47-56 "R" was plotted incorrectly. The plotting shows that the entire length of drag was carrying 26 ft. whereas N→3 was set at 32 ft. and 3→F at 26 ft. This incorrect plotting was allowed to stand as the area was fully re-covered by subsequent drags and plotting as

shown is on the safe side.

Depth diagram at 24 "R" was corrected as was also that for "N" day.

The 49 ft. sdg., pos 2 Q, 5 miles 210° from Vicksburg light was later cleared by drag set at 5-3/4 fb. at pos. 39 in the same locality where soundings of 31 and 41 fb. are shown the drag on "O" day went aground set at 28 fb. No sdg. was obtained in this case as the drag, the note in the record remarks, "later cleared"

There are several days where plotted effective depths differ by 1 ft. or so from those as given in the record. This is due to a tide revision made after the plotting. The difference was not considered serious enough to make all the necessary corrections involved.

Respectfully submitted,

Chas Ball

Draftsman

E.P.S.

ADDRESS THE DIRECTOR
U.S. COAST AND GEODETIC SURVEY

AND REFER TO No. 9-DRM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
WASHINGTON

SECTION OF FIELD RECORDS

Report of Wire Drag Sheet No. 3915.

Chief of Party: L. O. Colbert.

Surveyed by L. O. Colbert
Instructions dated Feb. 26, 1916.

Protracted and inked by H. P. White
and R. L. Schoppe.

Verified and Area and Depth Sheet by A. Baer.

1. The depth and extent of dragging satisfy the specific instructions.

2. The least water was found on the shoals that were discovered.

3. The supplemental hydrography is suitable for correcting the charts.

4. The overlaps are ample.

5. There are three small splits on this sheet. One of these was covered by the adjoining sheet 3910. The other two are of very small extent and of little consequence. No further dragging will therefore be required.

6. Reviewed by A. L. Shalowitz, July, 1922.

Chart 8160 Extension Appl'd 2-19-70HR